Office Action Summary	Application No.	Applicant(s)	
	10/725,003	APPRIOU ET AL.	
	Examiner	Art Unit	
	Bret Chen	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14-20* is/are pending in the application.

4a) Of the above claim(s) *14-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *10/29/08*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-12, 14-20 are pending in this application. Amended claims 3, 7 are noted.

The amendment after final dated 7/29/08 has been entered and carefully considered. The examiner appreciates the amendments to the claims. In view of said amendments, the previous claim objections have been withdrawn.

Claims 14-20 have been withdrawn from consideration as being directed to a nonelected invention.

Claim Objections

Claim 1 is objected to because of the following informalities listed below. Appropriate correction is required.

In claim 1 line 3, the word should be --preform--.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drouart et al. (5,522,007).

Drouart discloses a method of making an optical fibers from preforms that have been built up with pure silica or optionally with doped silica by plasma deposition (col.1 lines 7-12). Specifically, a plasma torch is utilized to inject hydroxyl ions into the build-up silica with the help of a plasma-generating gas at before, during, or after the build-up step (col.2 lines 47-61)

which allows the silica to vitrify directly on the primary perform (col.1 lines 47-50). The hydroxyl ions are introduced upstream of the primary perform (Figure 2). It is the examiner's position that the hydroxyl ions act as a reducing agent and hence would inherently be able to reduce the production of nitrogen oxides. In one embodiment, a non-humidified plasma-generating gas can be utilized such that the water vapor concentration is in the plasma-generating gas (col.5 lines 7-23). However, the reference fails to teach introducing a reducing agent into the interaction zone.

It is first noted that the reference clearly teaches of introducing the hydroxyl ions upstream of the primary preform (Figure 2). The hydroxyl ions are generated from tank 10 and introduced prior to the plasma torch 5 (col.4 lines 5-55). It is noted that the purpose of the hydroxyl ions is to control the buildup process (col.2 lines 47-64). One skilled in the art would realize from Drouart's teaching that as long as the hydroxyl ions are present before the primary preform, they will assist in the buildup process. It would have been obvious to one skilled in the art to inject the hydroxyl ions after the nozzle with the expectation of obtaining similar results.

The limitation of claim 2 has been addressed above.

In claim 3, the applicant requires an additional reducing element. One skilled in the art would realize that the more reducing agents one uses the bigger reducing effect. It would have been obvious to utilize a second reducing agent with the expectation of affecting the reducing rate. Furthermore, it is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

In claims 4 and 6, the applicant requires a specific reducing agent. It is noted that in one embodiment, hydrogen is fed into the plasma torch (col.6 lines 4-11). It would have been

obvious to one skilled in the art to utilize hydrogen as a means to produce the hydroxyl ions as noted by Drouart with the expectation of obtaining similar results.

In claim 5 and 6, the applicant requires a solid reducing agent. Drouart teaches the use of fluorine (col.1 lines 22-46). Mansfield teaches the use of fluorine compounds to lower the index of refraction (col.1 lines 13-42). It would have been obvious to incorporate the fluorine compounds in the process of Drouart with the expectation of lowering the index of refraction.

It should be noted that claims 7-12 recite where the reducing gas is introduced. The reducing gas goes through the entire plasma torch as noted in Figure 2 and thus meets the limitation of the applicant's claims. Regardless, to inject hydroxyl ions in different areas would have been obvious with the expectation of obtaining similar results because there appears to be no criticality in the location of the injection as mentioned above.

Response to Arguments

Applicant's arguments filed 7/29/08 have been fully considered but they are not persuasive.

Applicant argues specifically argue that the reference does not teach a moment in the present plasma in which the reducing agent is not present (p.8 second paragraph).

The examiner disagrees. It is noted that nowhere in the instant claim is there any mention of such a limitation. Hence, the applicant's arguments are not commensurate in scope with the instant claims. Secondly, assuming arguendo that there was language, nothing in the reference teaches that the reducing element is not present. It would seem that if Drouart's plasma torch is operating, it must have the hydroxyl ions present.

Applicant next argues that the reference fails to teach introducing a reducing element upstream from the primary preform (p.8 third paragraph).

The examiner disagrees. Figure 2 clearly shows the introduction of the hydroxyl ions upstream from the primary perform.

Applicant's arguments have been considered but are not deemed persuasive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bret Chen whose telephone number is (571)272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bret Chen/
Primary Examiner, Art Unit 1792
10/29/08